Technical Service Information 2003

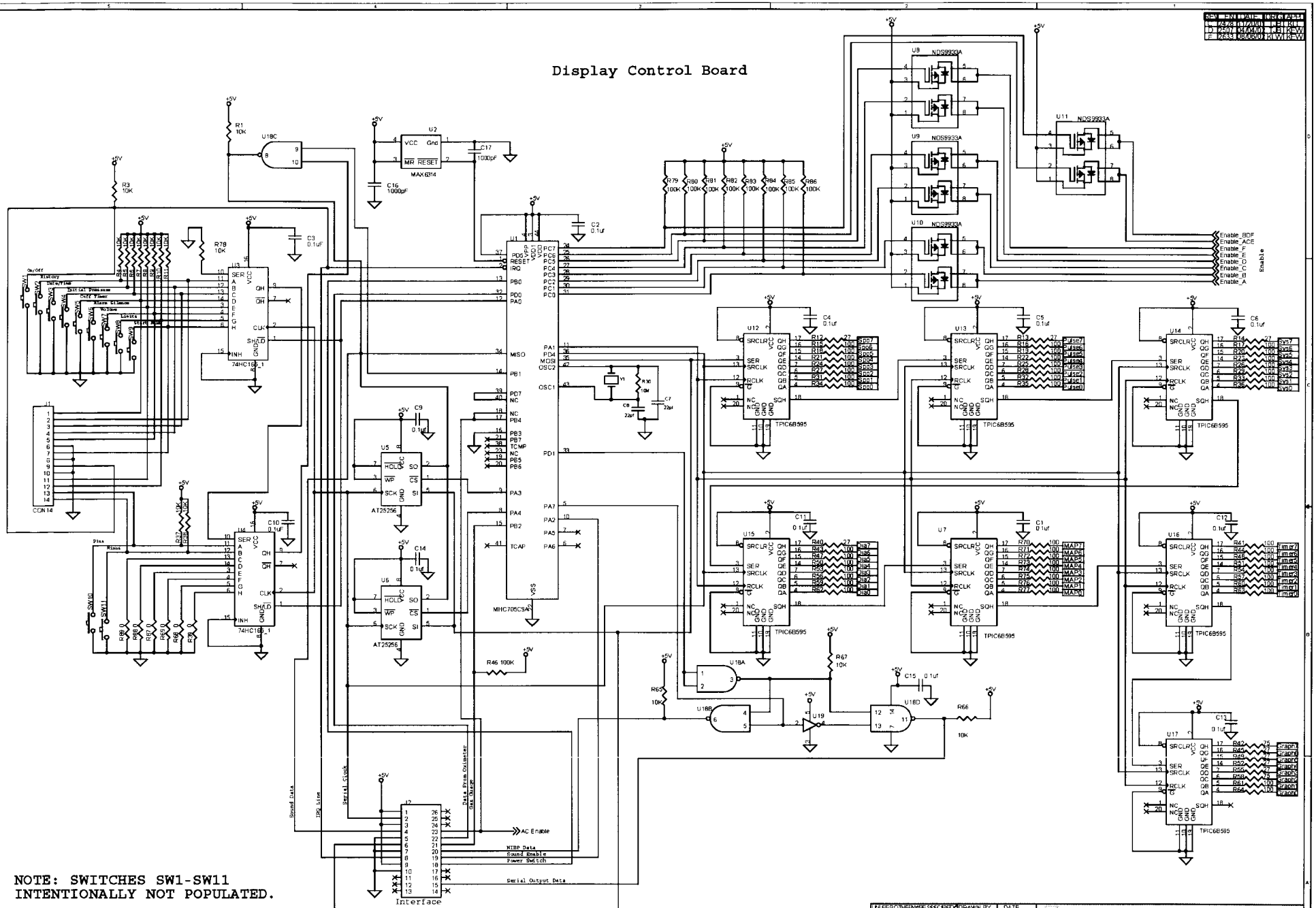
Model 2120

CE 0123

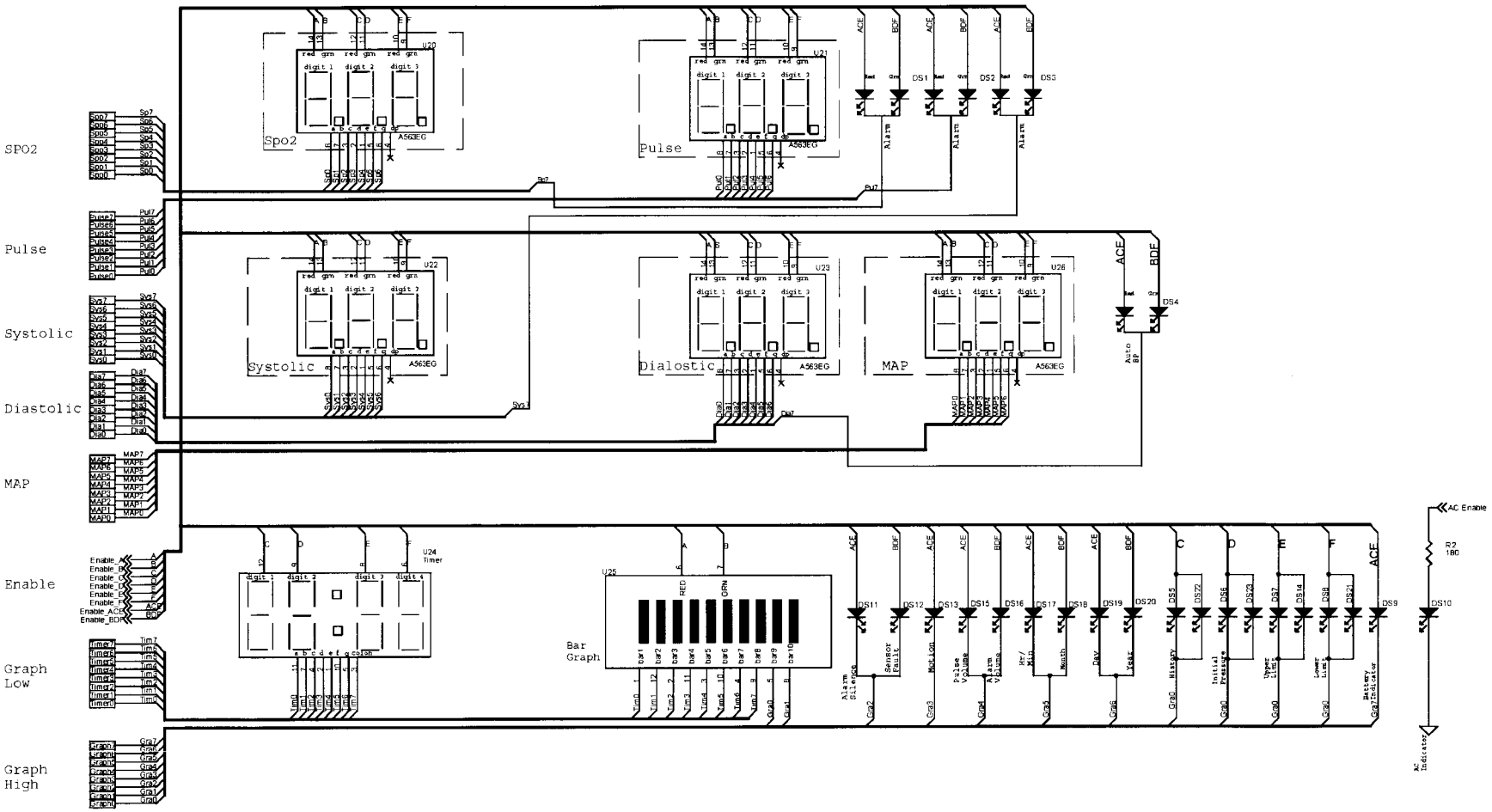
English

P/N 4049-000 Rev A

Display Control Board



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON .x ±.00 .xx ±.00 .xxx ±.000 ANGLES ±.00° THIRD ANGLE PROJECTION	DRAWN BY T.B	DATE 03/16/01	NONIN MEDICAL INC PLYMOUTH, MN CONFIDENTIAL
	CHECKED BY RKW	DATE 8-7-02	This information disclosed herein is confidential and is proprietary to Nonin Medical, Inc. Nonin reserves all patent, proprietary and reproduction rights therein. The information is not to be used or disclosed to any persons without the express written authorization of a representative of Nonin Medical, Inc.
	ELECTRONIC FILE NAME		TITLE SCHEMATIC, DISPLAY, 2120
	DRAWING CONFORMS TO ANSI 14.5M-19994		SIZE DWG NO 3004-000 REV E
	DO NOT SCALE DRAWING		SCALE SHEET 1 OF 2



LED Components

Note: LED's DS5-8
Intentionally Not Populated

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
X
XX
XXX
ANGLES
THIRD ANGLE PROJECTION

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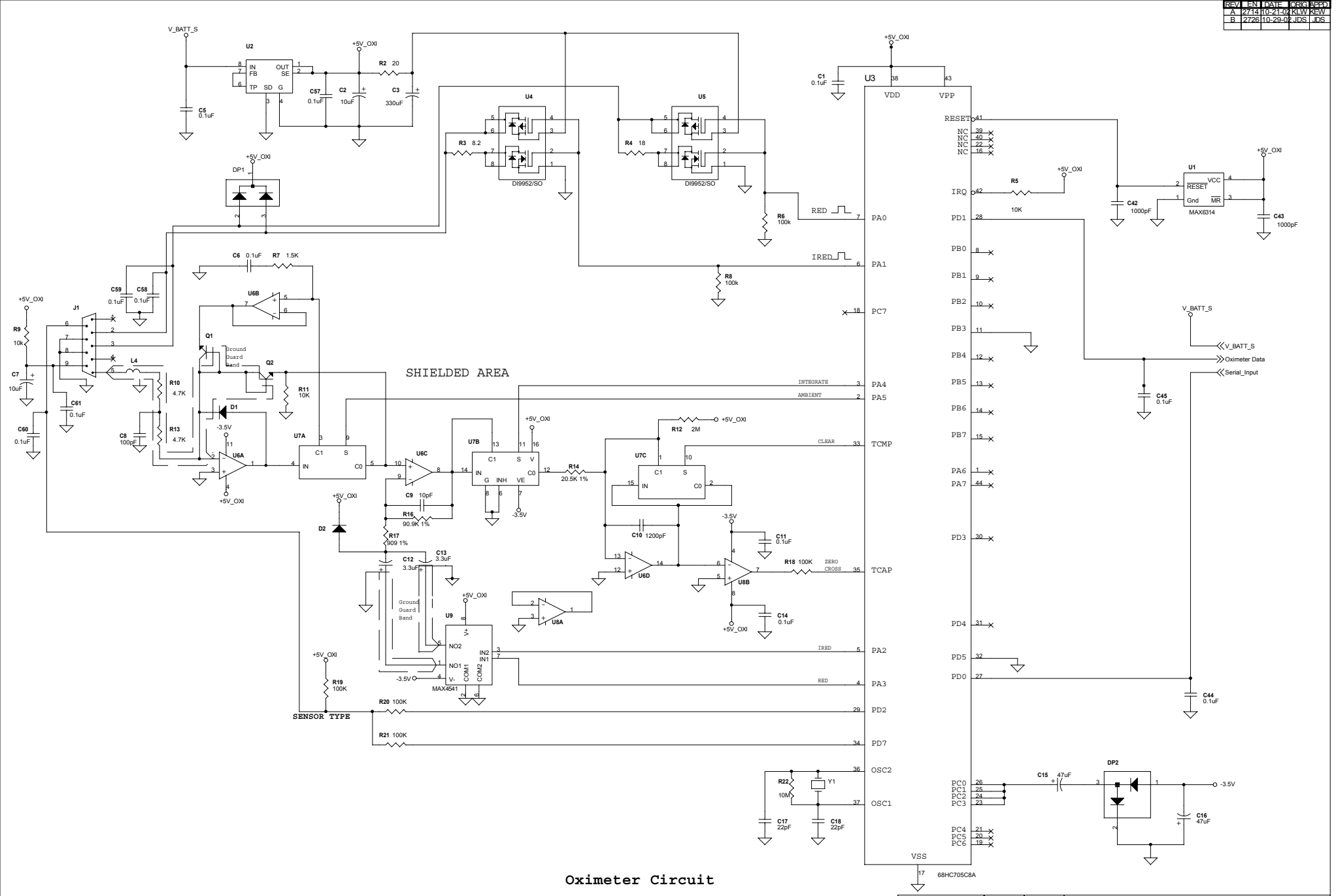
TITLE: SCHEMATIC, DISPLAY, 2120

SIZE | DWG NO 3004-000 | REV E

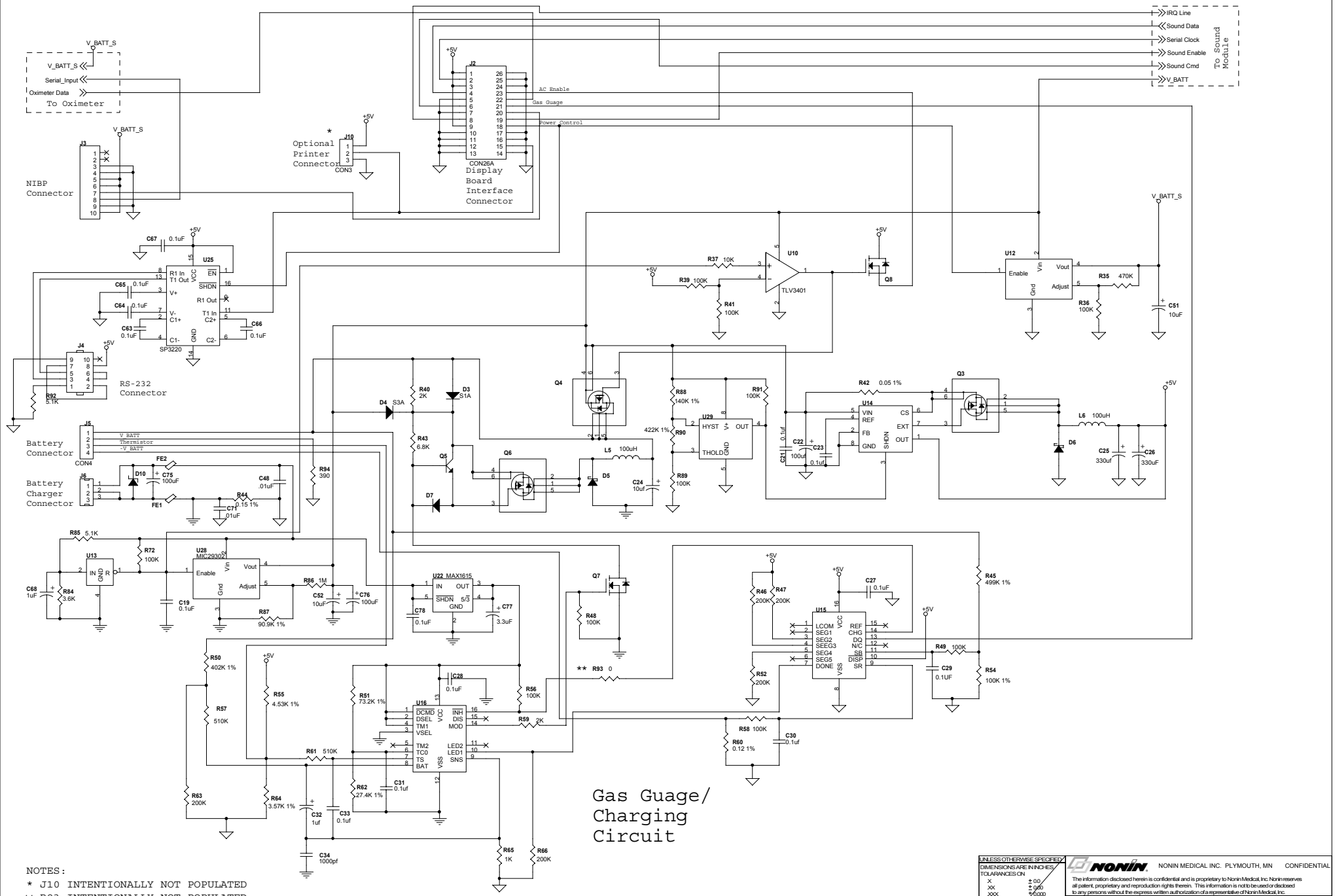
SCALE | SHEET 2 OF 2

REV	EN	DATE	ORG	APPD
A	2714	10-21-02	KLW	KEW
B	2726	10-29-02	JDS	JDS



Oximeter Circuit

UNLESS OTHERWISE SPECIFIED:	DRAWN BY	DATE	NONIN MEDICAL INC. PLYMOUTH, MN CONFIDENTIAL
DIMENSIONS ARE IN INCHES	JDS	10-29-02	The information disclosed herein is confidential and is proprietary to Nonin Medical, Inc. Nonin reserves all patent, proprietary and reproduction rights therein. This information is not to be used or disclosed to any persons without the express written authorization of a representative of Nonin Medical, Inc.
TOLERANCES ON: X ± 0.0, XX ± 0.00, XXX ± 0.000, ANGLES ± 0.0°	CHECKED BY	DATE	
THIRD ANGLE PROJECTION	ELECTRONIC FILE NAME		TITLE: SCHEMATIC, INTERFACE BRD II, 2120
	DRAWING CONFORMS TO ANSI 14.5M-19994		SIZE: — DWG NO. 4037-000 REV B
	DO NOT SCALE DRAWING		SCALE: — SHEET 1 OF 3



Gas Guage/
Charging
Circuit

Power Supply

NOTES:
* J10 INTENTIONALLY NOT POPULATED
** R93 INTENTIONALLY NOT POPULATED

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
X ± 0.0
XX ± 0.00
XXX ± 0.000
ANGLES ± 0.00 °
THIRD ANGLE PROJECTION

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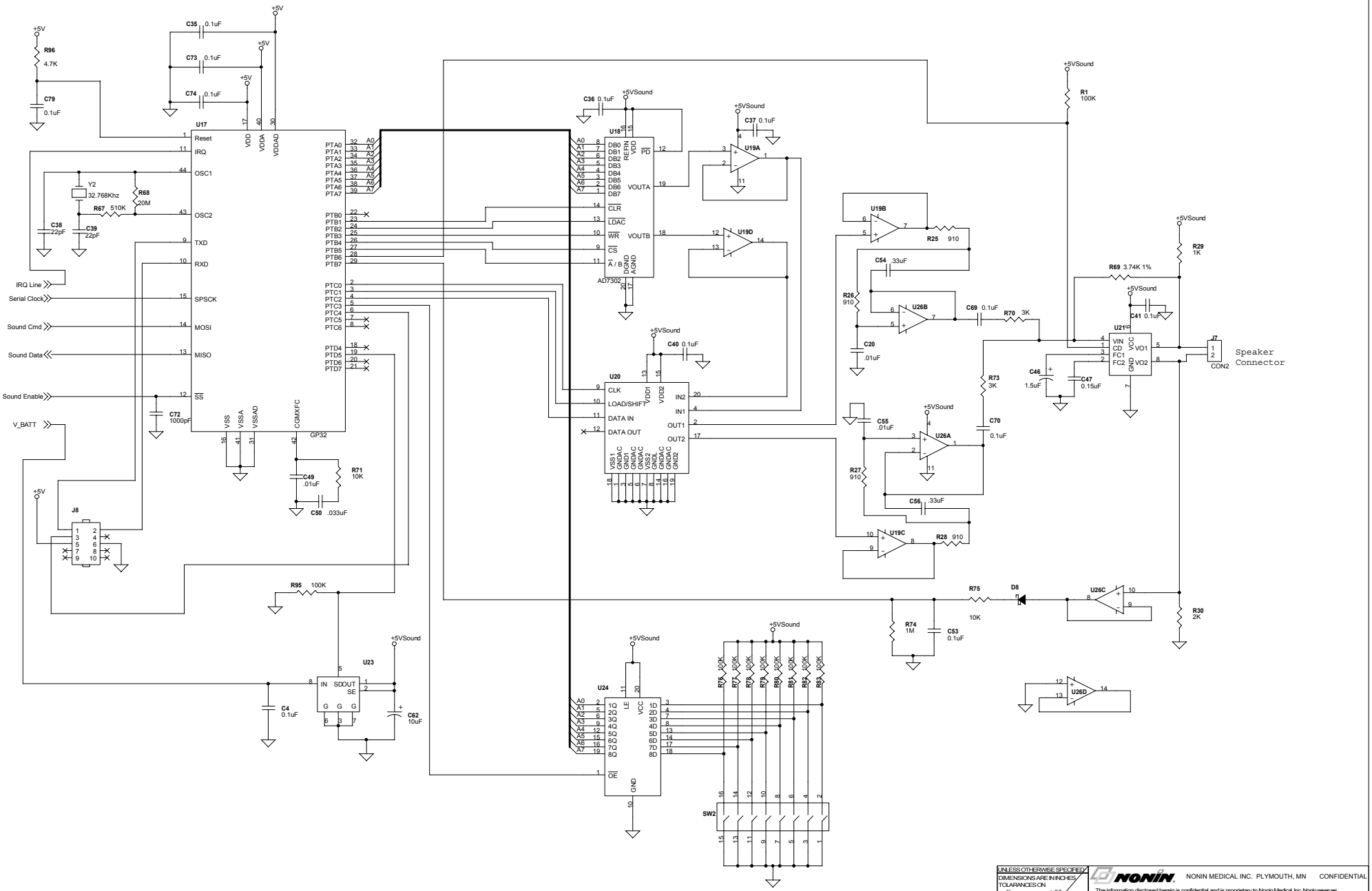
TITLE: SCHEMATIC, INTERFACE BRD II, 2120

SIZE | DWG NO. 4037-000 | REV B

SCALE | SHEET 2 OF 3



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES; TOLARANCES ON X ± 0.0, XX ± 0.00, XXX ± 0.000, ANGLES ± 0.0 °; THIRD ANGLE PROJECTION	NONIN MEDICAL INC. PLYMOUTH, MN	CONFIDENTIAL
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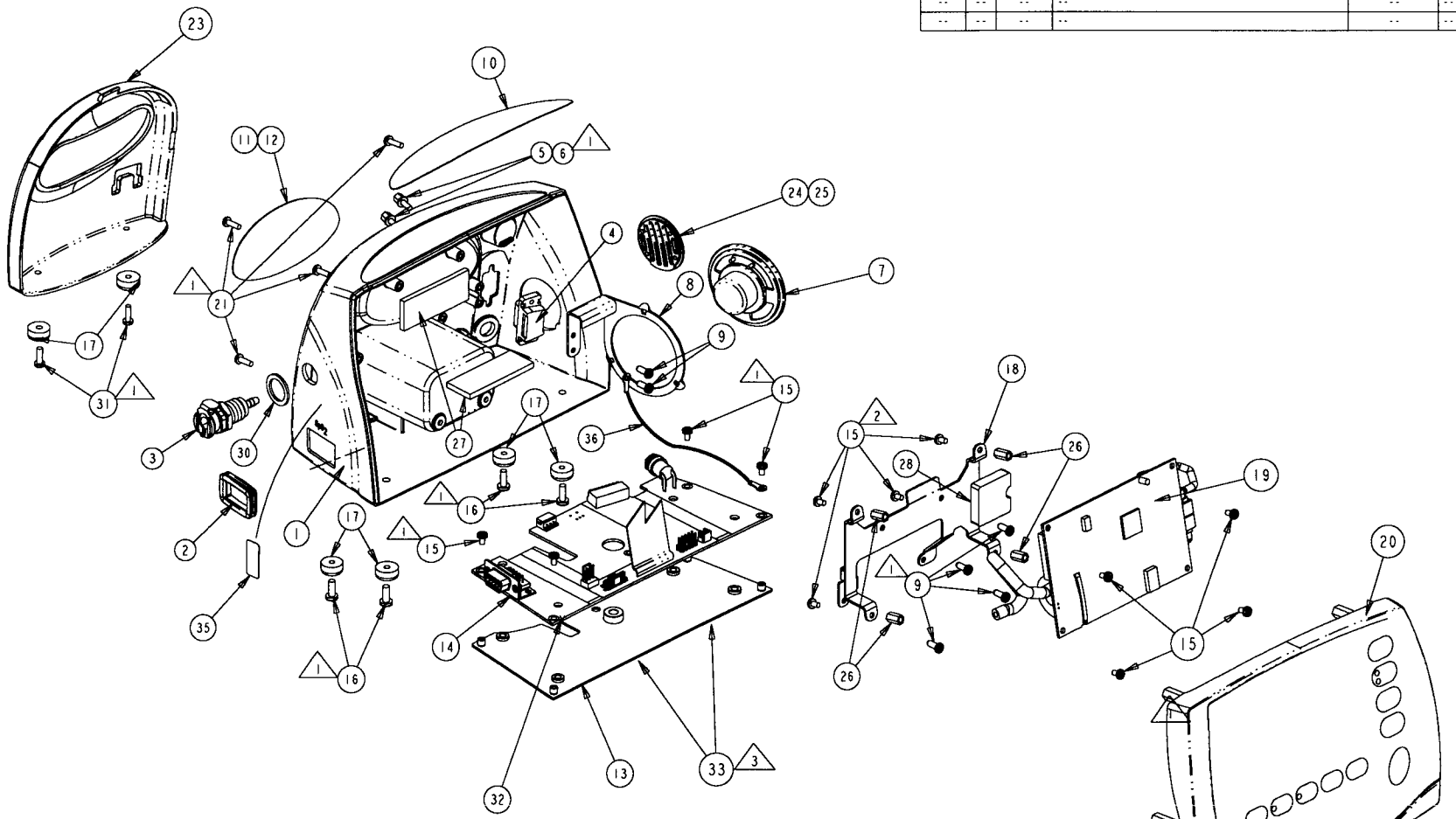
	TITLE: SCHEMATIC, INTERFACE BRD II, 2120	
	SIZE	DWG NO. 4037-000 / REV B
	SCALE	SHEET 3 OF 3

REVISION HISTORY					
ZONE	REV	EN	DESCRIPTION	DATE	EN ORIGINATOR
--	A	2714	INITIAL RELEASE	10/21/02	KLW
--	--	--	--	--	--
--	--	--	--	--	--

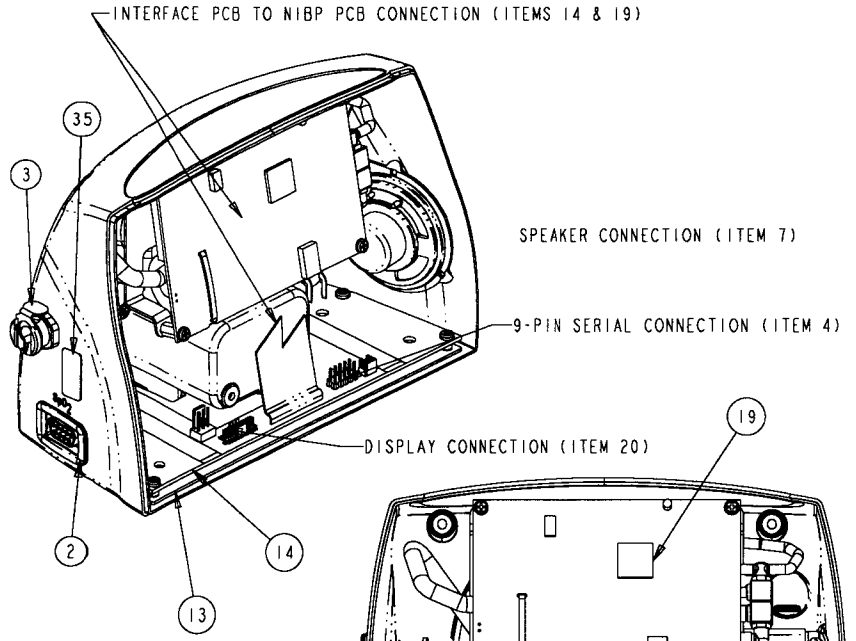


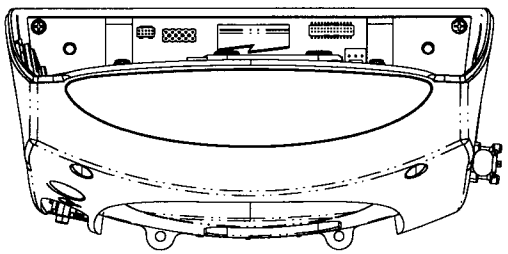
1 TORQUE TO 3 IN-LBS NOMINAL.

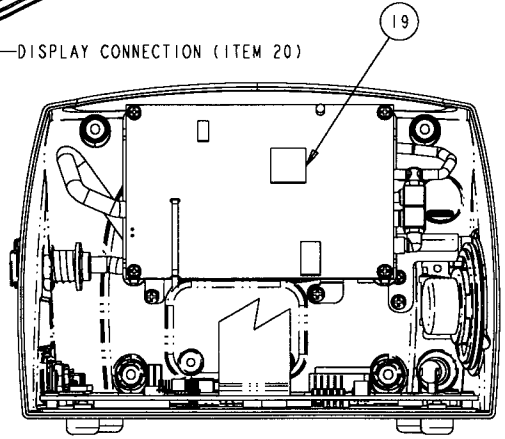
2 TORQUE TO 5 IN-LBS NOMINAL.

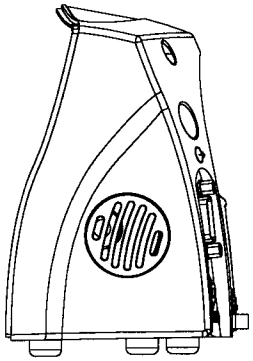
3 APPLY ITEM 33 AFTER CONNECTORS ARE INSTALLED.

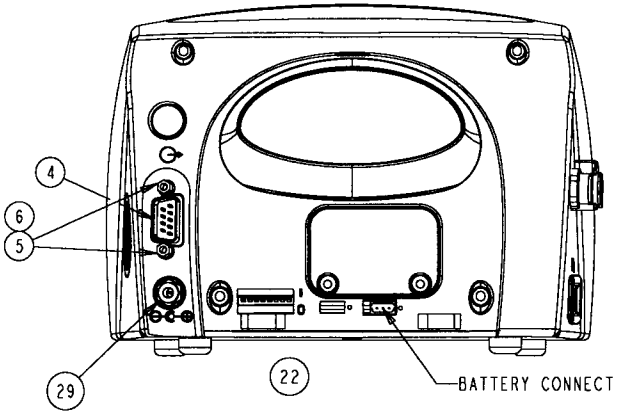
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: X ± 0.1 XX ± 0.01 XXX ± 0.001 ANGLES ± 0.5 THIRD ANGLE PROJECTION	DRAWN BY: KEW	DATE: 10/22/02	NONIN MEDICAL, INC. PLYMOUTH, MN CONFIDENTIAL The information disclosed herein is confidential and is proprietary to Nonin Medical, Inc. Nonin reserves all patent, proprietary and reproduction rights therein. This information is not to be used or disclosed to any persons without the express written authorization of a representative of Nonin Medical, Inc.
	CHECKED BY: KLH	DATE: 10/23/02	TITLE: ASSY, FINAL, 2120
	ELECTRONIC FILE NAME: 4038-000.DRW		
	DRAWING CONFORMS TO ANSI Y 14.5M-1994		SIZE: C; DWG NO: 4038-000; REV: A
	DO NOT SCALE DRAWING		SCALE: N/A; SHEET 1 OF 3

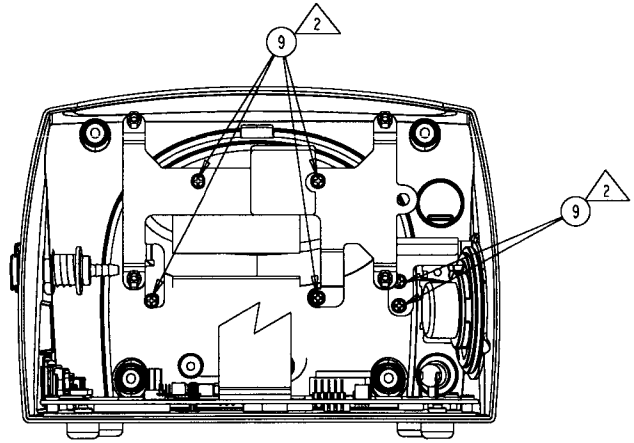




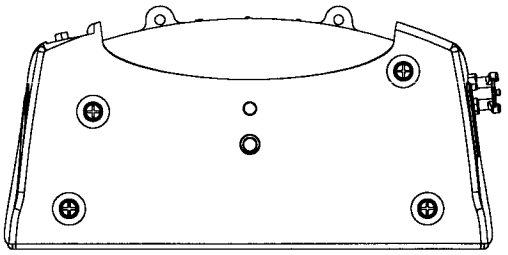








SHOWN W/OUT NIBP PCB ASSEMBLY



SHOWN W/OUT DISPLAY ASSEMBLY & BATTERY DOOR.

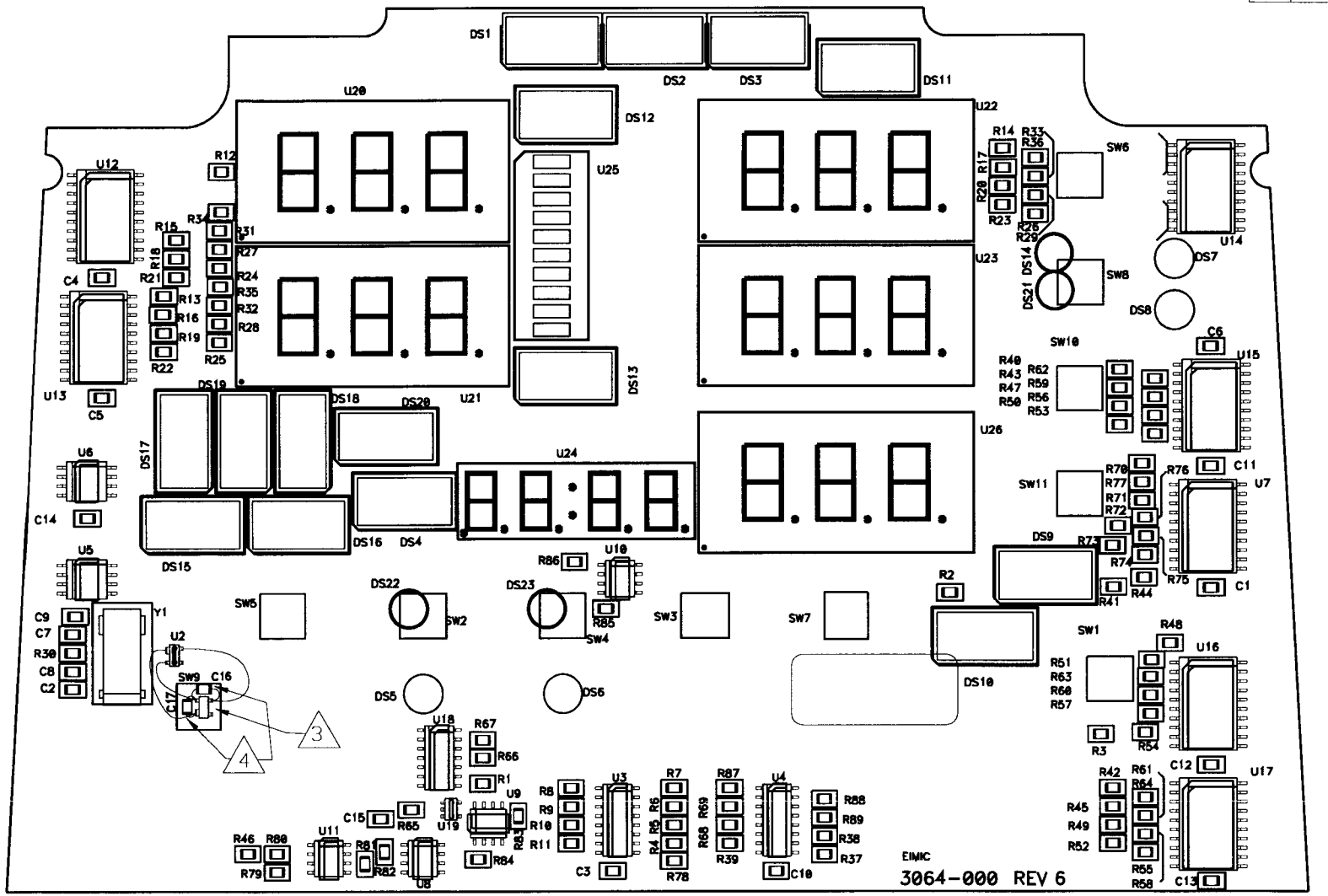
NONIN MEDICAL, INC. PLYMOUTH, MN	TITLE: FINAL ASSY, 2120		
	SIZE: A	DWG NO: 4038-000	REV: A
	SCALE: N/A	SHEET 2 OF 3	

BILL OF MATERIAL

ASSY ID	PART NUMBER	DESCRIPTION	UM	QTY
1	3127-003	HOUSING, REAR	EA	1
2	2140-006	TOP BEZEL	EA	1
3	3129-001	TUBING CONNECTOR, COUPLING BODY	EA	1
4	3378-000	CABLE ASSEMBLY, RS232	EA	1
5	3636-000	SCREW, JACK, 3/16" HEX x 1/8"	EA	2
6	1147-001	NON-FERROUS BRONZE INTERNAL LOCKWASHER, #4	EA	2
7	3336-000	ASSY, SPEAKER, 32 OHM	EA	1
8	3217-000	BRACKET, SPEAKER MOUNTING	EA	1
9	0669-402	SCREW, THREAD FORMING, # 4 x 5/16"	EA	6
10	3313-001	LABEL, TOP	EA	1
11	3314-000	LABEL, CAUTION, 2120	EA	1
12	1672-001	LABEL, SERIAL NUMBER	EA	1
13	3279-001	BRACKET, PCB MOUNTING	EA	1
14	4031-000	PCB ASSY, INTERFACE BOARD II	EA	1
15	3471-001	SCREW, PHILLIPS PAN HEAD, #4-40 x 3/16	EA	11
16	3472-003	SCREW, PHILLIPS PAN HEAD, #6-32 x 3/8	EA	4
17	3607-001	FOOT, NEOPRENE, 70 DUR	EA	6
18	3280-500	BRACKET, NIBP PCB MOUNTING	EA	1
19	3133-000	ASSY, NIBP MODULE	EA	1
20	3184-003	DISPLAY ASSY, 2120	EA	1
21	3471-004	SCREW, PHILLIPS PAN HEAD, #4-40 x 3/8	EA	4
23	3128-503	HOUSING, BATTERY COVER	EA	1
24	3454-002	GRILL ASSY, SPEAKER	EA	1
25	0165-002	ADHESIVE, CYANOACRYLATE SICOMET		AR
26	0364-061	SPACER, 3/16" HEX, THREADED, 4-40 x 3/8"	EA	4
27	3438-000	INSULATION PAD, NIBP, 2120	EA	2
28	3439-000	INSULATION PAD, SOLINOID, 2120	EA	1
29	2114-000 0513-000 Alt.	RTV, GE 128 VARNISH, INSULATING, GLPT		AR AR
30	3475-000	WASHER, WAVE, ½" I.D.	EA	1
31	3473-004	SCREW, PHILLIPS TRUSS HEAD, #4-40 x 3/8	EA	2
32	3695-000	RIVET, NYLON, PRESS IN	EA	1
33	0133-000	HOT MELT GLUE		AR
35	3843-000	LABEL, PATIENT ISOLATION, 2120	EA	1
36	3920-000	ASSY, GROUND CABLE	EA	1

REV	EN	DATE	ORIG	APPD
G	2659	08/27/02	TJB	KEW
H	2691	10/25/02	KLW	KEW
I	2720	10/25/02	KLW	KEW

TOP VIEW



NOTES:

1. Vendor shall apply Date Code in Format WWYY(WW=WEEK,YY=YEAR).
2. After soldering all components clean PCB per SMP 1568-000.
3. Secure U2 on its back onto the board using 0165-000. Position pin 1 at lower left corner. Use 30 AWG wire (1950-xxx) to jumper U2 pin 1,2, and 4 to corresponding pads. Secure jumpers using 0165-000.
4. Use 30 AWG solid core wire (P/N 1950-xxx) to solder C17 between pins 1 & 2 of U2 and C16 between pins 1 & 4 of U2.
5. Use 30 AWG solid core wire (P/N 1950-xxx) for jumper between J2 pin 23 and U1 pin 18

DRAWN	TJB	DATE	09/16/01
CHKD.	KLH		10/25/02
ENG.	P.L.		04/10/01
ENG.	KLW		04/04/01
MFG.	S.B.		04/11/01
Q.A.	SES		04/10/01

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TOLERANCES UNLESS OTHERWISE SPECIFIED
.X ±.030
.XX ±.010
.XXX ±.005
ANGLES ±1°
DO NOT SCALE DRAWING

TITLE PCB ASSY, DISPLAY BOARD

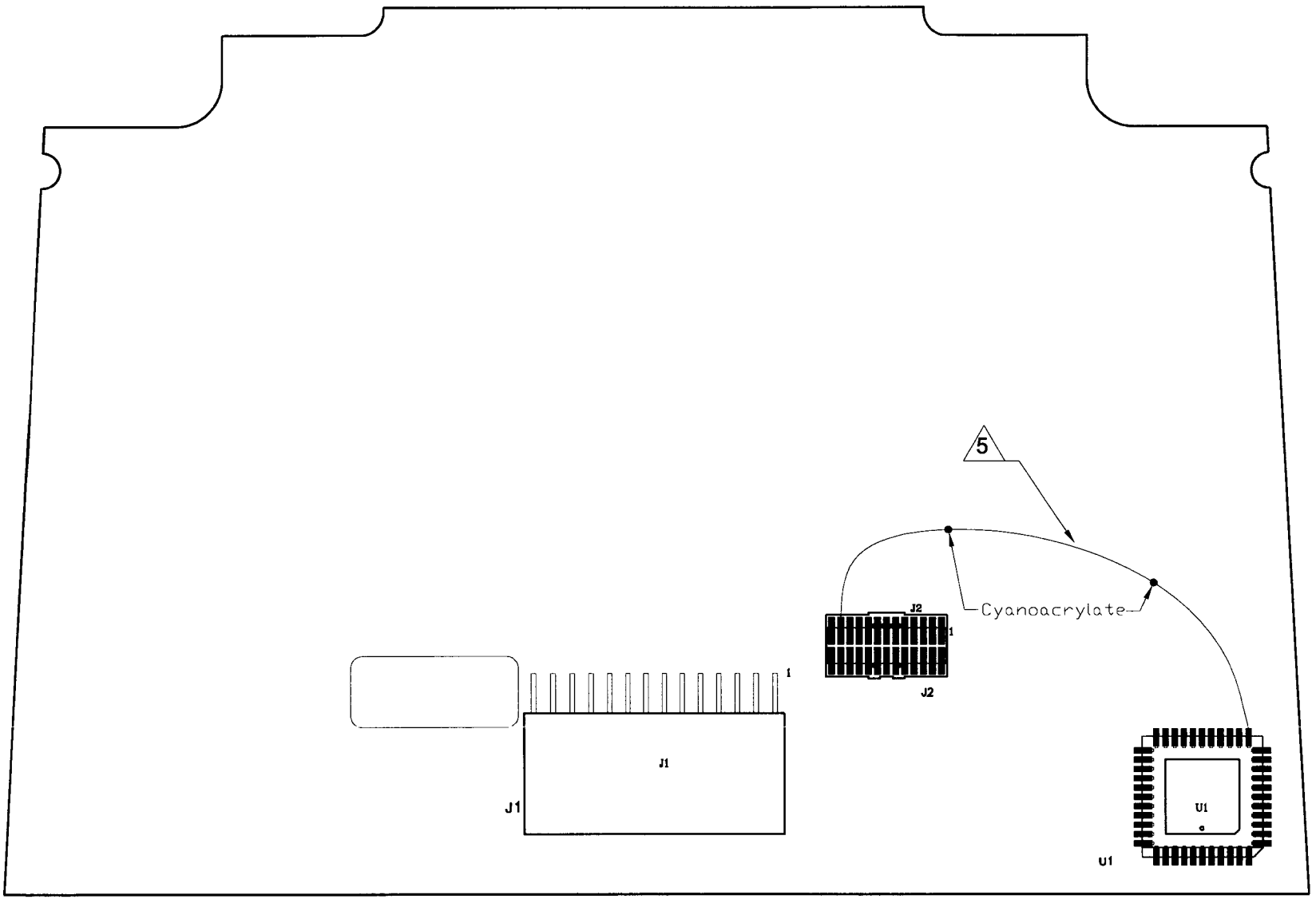
PART NUMBER 3017-000

REF 2120

REV I

SHT 1 OF 3

BOTTOM VIEW



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TOLERANCES UNLESS OTHERWISE SPECIFIED .X ± .030 .XX ± .010 .XXX ± .005 ANGLES ± 1° DO NOT SCALE DRAWING	TITLE PCB ASSY, DISPLAY BOARD PART NUMBER 3017-000	REF 2120 REV I SHT 2 OF 3

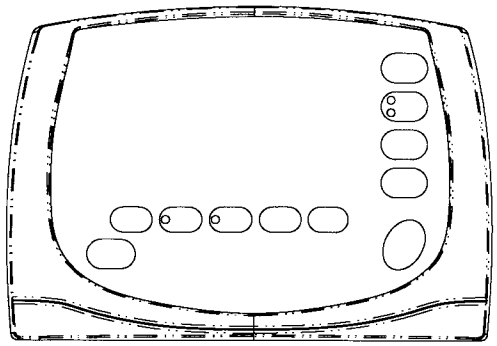
BILL OF MATERIAL

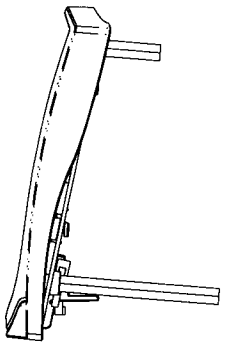
ASSY ID	PART NUMBER	DESCRIPTION	UM	QTY
C1-6, 9-15	1970-033	CAP, X7R Chip, 10%. 0.1µF 16V (MIN) Size 0805	EA	13
C16,17	1971-036	CAP, NPO Chip, 1000pF, 25V (MIN),10% Size 0805	EA	2
C7,8	1971-017	CAP, NPO Chip, 22pF, 25V (MIN), 10% Size O8O5	EA	2
DS1-4	2973-000	LED, Bi-Color	EA	4
DS14, 21-23	3063-000	LED, Yellow, Round	EA	4
DS13,15-20	2972-002	LED, Yellow, Rectangular	EA	7
DS9,11,12	3649-002	LED, Yellow, Rectangular, High Intensity	EA	3
DS10	2972-001	LED, Green, Rectangular	EA	1
J1	3244-002	Connector, 14 Pin, (Berg# 78208-214)	EA	1
J2	3248-002	Header, 2X13, (Samtec #FTSH-113-01-L-DV-K)	EA	1
R1, 3-11, 37,38, 65-67,78	0751-097	Chip Resistor, 5% 10K OHM, Size 0805	EA	16
R2	0751-055	Chip Resistor, 5% 180 OHM, Size 0805	EA	1
R12-14,40,45 49,52, 55	0751-035	Chip Resistor, 5% 27 OHM, Size 0805	EA	8
R15-29, 31-36,41, 43, 44,47, 48,50,51, 53, 54,56, 57,59-64, 70-77	0751-049	Chip Resistor, 5% 100 OHM, Size 0805	EA	46
R30	0751-169	Chip Resistor, 5% 10M OHM, Size 0805	EA	1
R39,68, 69,87-89	1952-000	Chip Resistor, 1%, 0 OHM, Size 0805	EA	6
R46,79-86	0751-121	Chip Resistor, 5% 100K OHM, Size 0805	EA	9
R42, 58	0751-046	Chip Resistor, 5% 75 OHM Size 0805	EA	2
SW1-11	3078-001	Switch, Pushbutton	EA	11
U1	4040-000	IC, Programmed Micro-Controller (PLCC Package)	EA	1
U2	2507-000	IC, Reset Monitor	EA	1
U3,4	3000-000	IC, Parallel-In/Serial-Out Shift Register, 74HC165	EA	2
U5,6	3001-000	IC, Serial EEProm, Memory, 256K, Size SOIC(8Pin)	EA	2
U7,12-17	3003-000	IC, Shift Register, Power Logic, TPIC6B595, Size SOP(20Pin)	EA	7
U8-11	3002-000	IC, Dual P-Channel Enhancement FET, NDS9933A, SO-8	EA	4
U18	2999-000	IC, Quad 2-Input NAND Gate, 74HC03, Size SOIC(14Pin)	EA	1
U19	2362-000	IC, Single Schmitt Trigger, (SOT23-5)	EA	1
U20-23, 26	2966-001	IC, Three Digit BI-Color Seven Segment Display	EA	5
U24	2974-000	IC, Clock Display, Green	EA	1
U25	2967-001	IC, 10 Segment Bar Graph, Bi-Color	EA	1
Y1	0568-001 1889-000 ALT 2519-000 ALT	Crystal, 4.00MHZ (SMD) Crystal, 4.00 MHZ (SMD) Crystal, High Frequency (SMD)	EA	1
PCB	3064-000	Display Circuit Board	EA	1
-	1950-000	Wire, 30 AWG	-	AR
-	0165-000	Adhesive, Cyanoacrylate	-	AR
REF	3004-000	Schematic, 2120	REF	

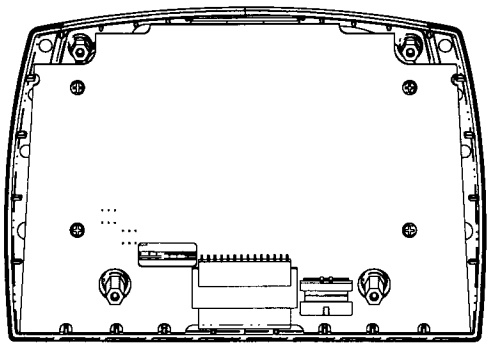
Note: DS5-8, SW1-11 intentionally not populated.

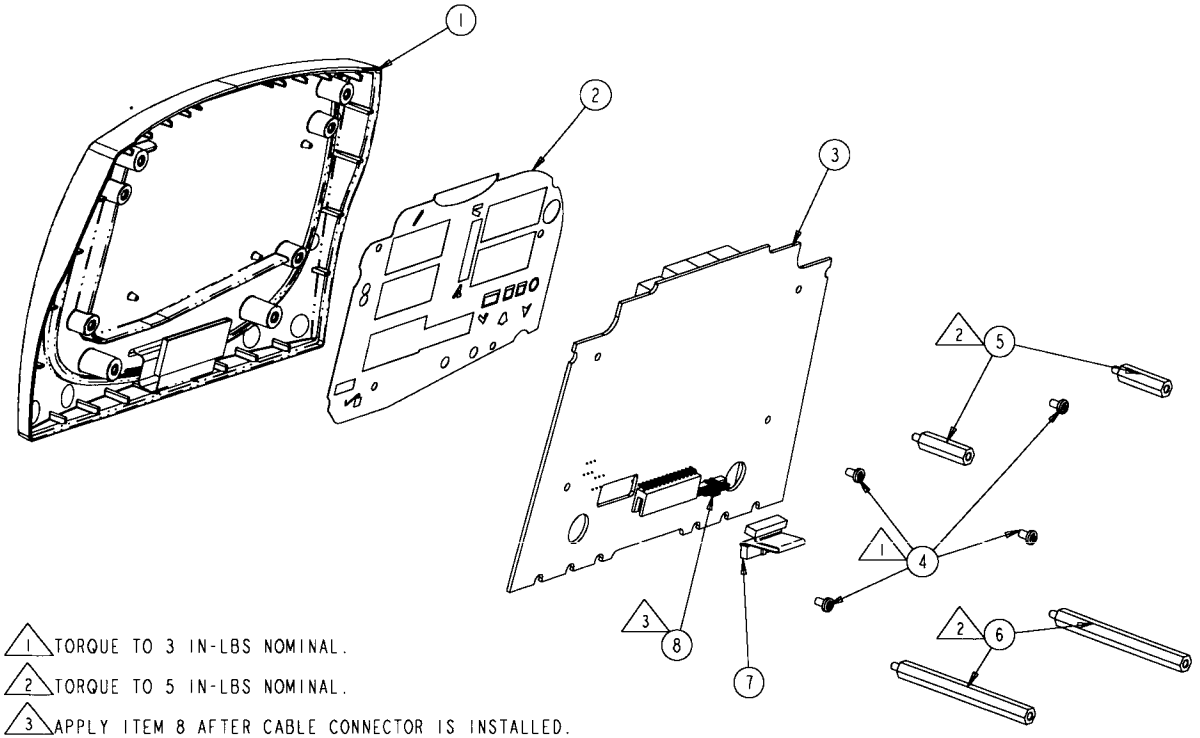
NONIN MEDICAL, INC. MINNEAPOLIS, MN	TITLE PCB ASSY, DISPLAY BOARD, 2120	REF 2120 REV I
	PART NUMBER 3017-000	SHT 3 OF 3

REV	EN	DATE	ORIG	APPD
A	2360	07/20/01	ADB	KEW
B	2469	01/23/02	ADB	KEW
C	2633	08/06/02	KLW	KEW









ITEM #	PART NUMBER	DESCRIPTION	UM	QTY
1	3126-003	FRONT PANEL, 2120	EA	1
2	3185-003	DISPLAY LABEL, 2120	EA	1
3	3017-000	PCB ASSY, DISPLAY BOARD	EA	1
4	3471-001	SCREW,PAN HEAD,#4-40,PHILLIPS	EA	4
5	0365-006	SPACER, M/F HEX 4-40 x .875 LG	EA	2
6	0365-031	SPACER, M/F HEX 4-40 x 2.5 LG	EA	2
7	3249-003	.050 (1.27mm) CABLE STRIPS (FFSD)	EA	1
8	0133-000	HOT MELT GLUE		AR

1 TORQUE TO 3 IN-LBS NOMINAL.

2 TORQUE TO 5 IN-LBS NOMINAL.

3 APPLY ITEM 8 AFTER CABLE CONNECTOR IS INSTALLED.

DRAWN BFK	DATE 09/15/00	
CHKD. KLH	8/7/02	
ENG. PI	07/25/01	
ENG. KLW	07/25/01	
MFG. SB	07/25/01	
Q.A. SES	07/25/01	

NONIN MEDICAL, INC. MINNEAPOLIS, MN

TOLERANCES UNLESS OTHERWISE SPECIFIED
.X ±0.1
.XX ±0.01
.XXX ±0.005
ANGLES ±1.0°
DO NOT SCALE DRAWING

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TITLE
DISPLAY ASSY, 2120

PART NUMBER
3184-003

REF 2120

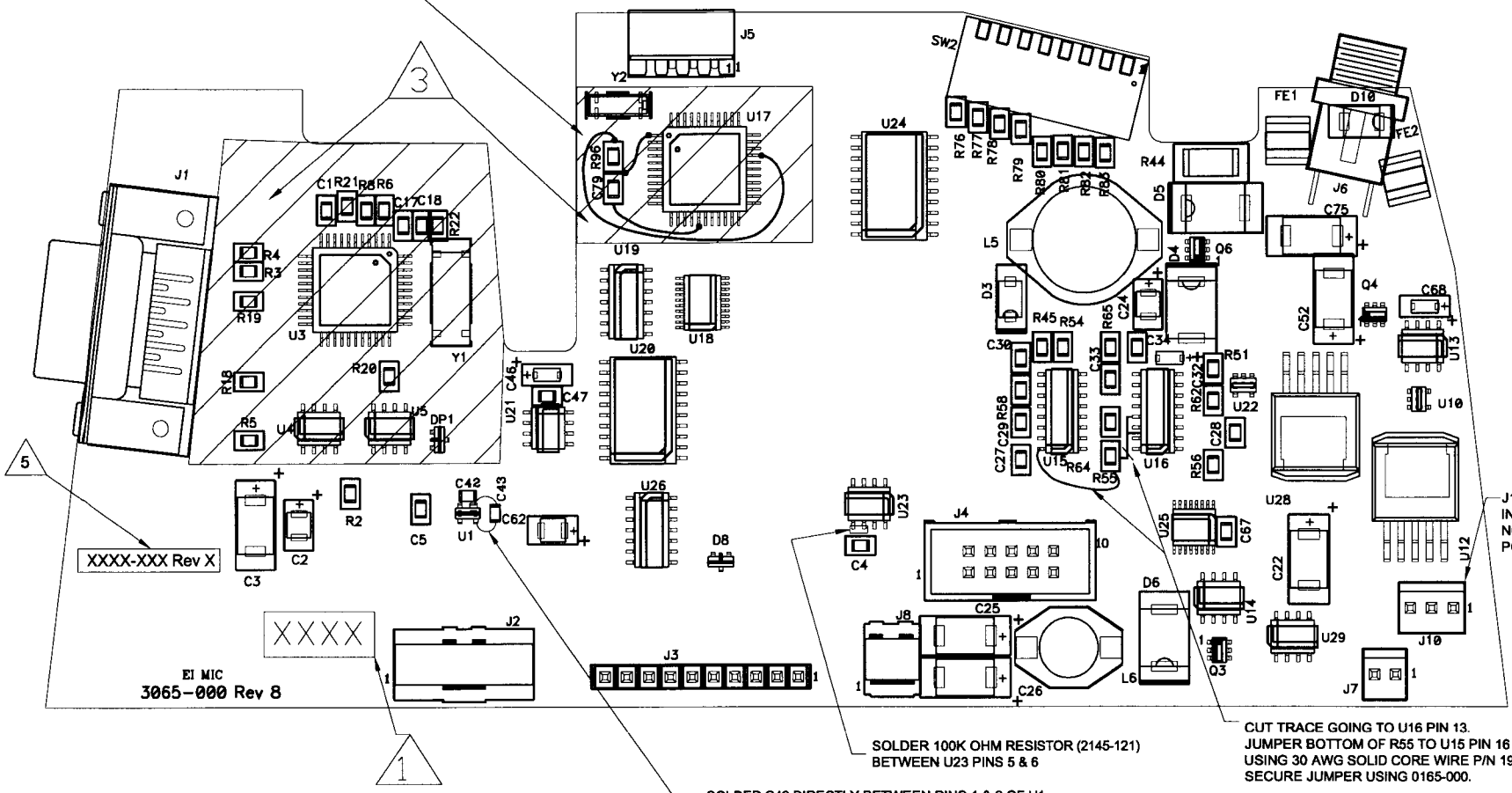
REV C

SHT 1 OF 1

TOP VIEW

JUMPER TOP OF R96 (USING 1950-XXX) TO PIN 30 OF U17.
JUMPER BOTTOM OF R96 AND TOP OF C79 TO PIN 1 OF U17.
JUMPER BOTTOM OF C79 TO PIN 16 OF U17.
SECURE RESISTOR AND CAPACITOR TO BOARD USING 2-PART EPOXY (2459-000)

REVISION HISTORY					
ZONE	REV	EN	DESCRIPTION	DATE	EN ORIGINATOR
	A	2714	INITIAL RELEASE	10/21/02	KLW
	B	2726	ADD .1uF CAP, 4.7K OHM RESISTOR	10/29/02	JDS



SOLDER 100K OHM RESISTOR (2145-121) BETWEEN U23 PINS 5 & 6

CUT TRACE GOING TO U16 PIN 13.
JUMPER BOTTOM OF R55 TO U15 PIN 16
USING 30 AWG SOLID CORE WIRE P/N 1950-XXX.
SECURE JUMPER USING 0165-000.

SOLDER C42 DIRECTLY BETWEEN PINS 1 & 2 OF U1
USE 2-PART EPOXY (P/N 2459-000) TO SECURE C43 TO THE BOARD
USE 30 AWG SOLID CORE WIRE (P/N 1950-XXX)
TO SOLDER C43 TO PINS 1 & 4 OF U1

NOTES:

△5 Label with Nonin PCB assembly number and revision (XXXX-XXX Rev X)

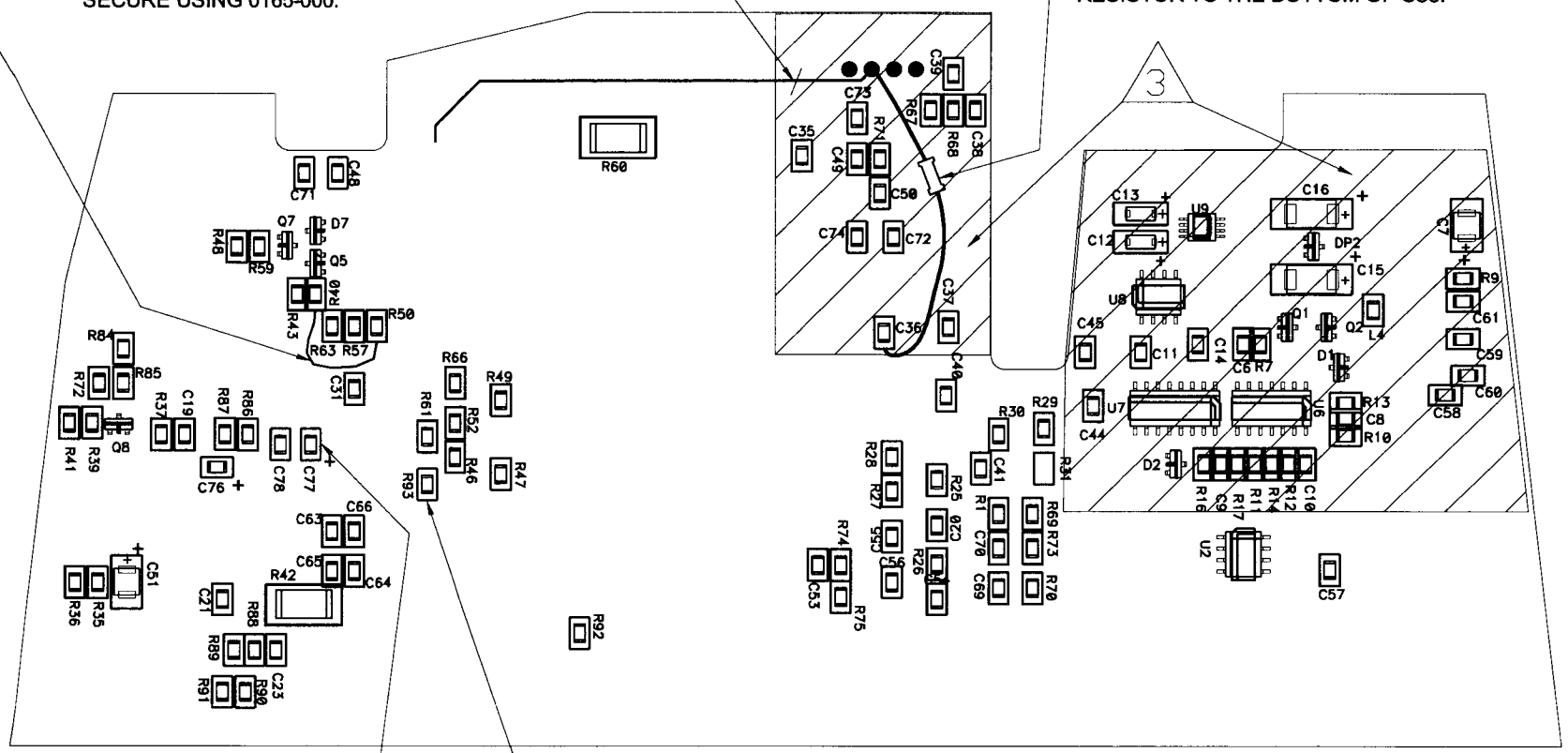
4) After soldering all components shall be cleaned per SMP 1568-000

△3 Conformal Coat area shown on top and bottom of PCB after completion of board test.

2) J1 and J3 Lead Length shall be 0.100" MAX.

△1 Vendor shall apply Date Code in Format WWYY(WW=WEEK,YY=YEAR).

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: .X ± .030 .XX ± .010 .XXX ± .005 ANGLES ± 5° THIRD ANGLE PROJECTION	DRAWN BY KEW	DATE 10/30/02	NONIN MEDICAL, INC. PLYMOUTH, MN CONFIDENTIAL The information disclosed herein is confidential and is proprietary to Nonin Medical, Inc. Nonin reserves all patent, proprietary and reproduction rights therein. This information is not to be used or disclosed to any persons without the express written authorization of a representative of Nonin Medical, Inc.
	CHECKED BY KLH	DATE 10/30/02	TITLE ASSY, PCB, INTERFACE BOARD II
	ELECTRONIC FILE NAME 4031-000 REV B.DWG		
	DRAWING CONFORMS TO ANSI Y 14.5M-1994		SIZE C · DWG NO 4031-000 · REV B
	DO NOT SCALE DRAWING		SCALE N/A · SHEET 1 OF 5


CUT TRACE GOING TO J5 PIN 2
JUMPER BOTTOM OF R50 TO THE BOTTOM OF R40 USING 1950-XXX. SECURE USING 0165-000.
COVER RESISTOR (0033-063) USING HEAT SHRINK TUBING (0146-007). CONNECT ONE END TO J5 PIN 2. SECURE RESISTOR TO BOARD USING 2-PART EPOXY (2459-000). CONNECT THE OTHER END OF RESISTOR TO THE BOTTOM OF C36.
R93 INTENTIONALLY NOT POPULATED
PLACE C77 OPPOSITE TO THE POLARITY INDICATED ON THE BOARD (i.e., INDICATED POLARITY IS INCORRECT)
BOTTOM VIEW

NONIN MEDICAL, INC. PLYMOUTH, MN	TITLE: ASSY, PCB INTERFACE BOARD II		
	SIZE: C	DWG NO: 4031-000	REV: B
	SCALE: N/A	SHEET 2 OF 5	

BILL OF MATERIAL

ASSY ID	PART NUMBER	DESCRIPTION	UM	QTY
C 1,4-6, 11,14,19, 21,23, 27-31, 33, 35-37,40, 41,44,45, 53, 57-61, 63-67, 69 70,73, 74,78, 79	1970-033	CAP, X7R Chip, 10%. 0.1µF 16V (MIN) Size 0805	EA	39
C2, 7,24, 51,52,62	1902-105	CAP, Tantalum Chip, 10% 16V 10µF, B-Size	EA	6
C3, 25, 26	1892-012	CAP, Tantalum Chip, 10% 6.3V 330µF, EIA Size 7343H(E)	EA	3
C8	1971-025	CAP, NPO Chip, 100pF, 25V (MIN), 10% Size O8O5	EA	1
C9	1971-013	CAP, NPO Chip, 10pF, 25V (MIN), 10% Size O8O5	EA	1
C10	1971-037	CAP, NPO Chip, 1200pF, 25V (MIN), 10% Size O8O5	EA	1
C12, 13	1902-565	CAP, Tantalum Chip, 2% 10V 3.3µF, A-Size	EA	2
C15, 16	1902-051	CAP, Tantalum Chip, 10% 6.3V 47µF, C-Size	EA	2
C17, 18, 38,39	1971-017	CAP, NPO Chip, 22pF, 25V (MIN), 10% Size O8O5	EA	4
C20, 48, 49,55,71	1970-021	CAP, X7R Chip, 10%. 0.01µF 16V (MIN) Size 0805	EA	5
C22, 75, 76	1892-193	Cap, Low ESR Tant. Chip, 100µF, 10%, 16V, D-Size	EA	3
C32, 68	1902-090	CAP, Tantalum Chip, 10% 10V 1µF, A-Size	EA	2
C34, 72, 42,43	1971-036	CAP, NPO Chip, 1000pF, 25V (MIN), 10% Size O8O5	EA	4
C46	1902-062	CAP, Tantalum Chip, 10% 6.3V 1.5µF, A-Size	EA	1
C47	1970-035	CAP, X7R Chip, 10%. 0.15µF 16V (MIN) Size 0805	EA	1
C50	1970-027	CAP, X7R Chip, 10%. 0.033µF 16V (MIN) Size 0805	EA	1
C54, 56	1970-039	CAP, X7R Chip, 10%. 0.33µF 16V (MIN) Size 0805	EA	2
C77	1902-065	Tantalum Chip, 10% 3.3µF A-Size	EA	1
D1, 2, 7	0431-000	Diode, High Speed Switching, SOT23	EA	3
D3	3067-000	Diode, 1 Amp, S1A, Case SMC/DO-214AC	EA	1
D4	3068-000	Diode, 3 Amp, S3A, Case SMC/DO-214AB	EA	1
D5, 6	3069-000	Diode, Schottky, MBRS340T3, Case 403-03	EA	2
D8	3419-000	Diode Schottky, BAT54 (SOT23)	EA	1
D10	3532-114	Diode, Transient Suppressor	EA	1
DP1	2539-000	Diode Package, Common Cathode	EA	1
DP2	2148-000	Diode, Dual Series High Speed Switching, SOT23	EA	1
FE1, 2	3601-017	Bead, Ferrite	EA	2
J1	1725-000	Connector, 9 Pin D-Sub (Female)	EA	1
J2	3248-002	Header, 2X13, .05 Center	EA	1
J3	3429-000	Cable, Flex, 10-position, Locking	EA	1
J4	3239-000	2X5 Header	EA	1
J5	3177-003	Connector, 4 Position, Right Angle	EA	1
J6	3196-002	Connector Jack, (Switchcraft P/N 732RA)	EA	1
J7	0028-002	Header, 2 Position, Locking	EA	1
J8	3248-001	Header, 2X5, .05 Center	EA	1

L4	2587-000	EMI Suppresser, Size 0805	EA	1
L5	3154-011	Inductor, 100µH, Bobbin Type, Coilcraft # DO5022P-104	EA	1
L6	1900-018	Inductor, 100µH, Bobbin Type, Coilcraft # DO3340P-104	EA	1
Q1, 2, 5	1148-002	Transistor, NPN Low Noise, SOT23	EA	3
Q3, 4, 6	3018-000	Transistor, NDC652P Size SOT6	EA	3
Q7, 8	2305-000	FET, N-Channel D-MOS, Size SOT23	EA	2
R1, 6, 8 18-21,36 39,41,48 49,56,58 72, 76-83, 91	0751-121	Chip Resistor, 5% 100K OHM, Size 0805	EA	24
R2	0751-032	Chip Resistor, 5% 20 OHM, Size 0805	EA	1
R3	0751-023	Chip Resistor, 5% 8.2 OHM, Size 0805	EA	1
R4	0751-031	Chip Resistor, 5% 18 OHM, Size 0805	EA	1
R5, 9,11, 37,71,75	0751-097	Chip Resistor, 5% 10K OHM, Size 0805	EA	6
R7	0751-077	Chip Resistor, 5% 1.5K OHM, Size 0805	EA	1
R10, 13, 96	0751-089	Chip Resistor, 5% 4.7K OHM, Size 0805	EA	3
R12	0751-152	Chip Resistor, 5% 2M OHM, Size 0805	EA	1
R14	1952-431	Chip Resistor, 1%, 20.5K OHM, Size 0805	EA	1
R16, 87	1952-493	Chip Resistor, 1%, 90.9K OHM, Size 0805	EA	2
R17	1952-293	Chip Resistor, 1%, 909 OHM, Size 0805	EA	1
R22	0751-162	Chip Resistor, 5% 10M OHM, Size 0805	EA	1
R25-28	0751-072	Chip Resistor, 5% 910 OHM, Size 0805	EA	4
R29, 65	0751-073	Chip Resistor, 5% 1K OHM, Size 0805	EA	2
R30, 40, 59	0751-080	Chip Resistor, 5% 2K OHM, Size 0805	EA	3
R35	0751-137	Chip Resistor, 5% 470K OHM, Size 0805	EA	1
R42	3250-106	Chip Resistor, 1%, 0.05 OHM, Size 2512	EA	1
R43	0751-093	Chip Resistor, 5% 6.8K OHM, Size 0805	EA	1
R44	3269-002	Chip Resistor, 1%, 0.15 OHM, Size 2512	EA	1
R45	1952-568	Chip Resistor, 1%, 499K OHM, Size 0805	EA	1
R46, 47, 52,63,66	0751-128	Chip Resistor, 5% 200K OHM, Size 0805	EA	5
R50	1952-559	Chip Resistor, 1%, 402K OHM, Size 0805	EA	1
R51	1952-484	Chip Resistor, 1%, 73.2K OHM, Size 0805	EA	1
R54, 89	1952-501	Chip Resistor, 1%, 100K OHM, Size 0805	EA	2
R55	1952-364	Chip Resistor, 1%, 4.53K OHM, Size 0805	EA	1
R57, 61, 67	0751-138	Chip Resistor, 5% 510K OHM, Size 0805	EA	3
R60	3269-000	Chip Resistor, 1%, 0.12 OHM, Size 2512	EA	1
R62	1952-443	Chip Resistor, 1%, 27.4K OHM, Size 0805	EA	1
R64	1952-354	Chip Resistor, 1%, 3.57K OHM, Size 0805	EA	1
R68	0751-163	Chip Resistor, 5% 20M OHM, Size 0805	EA	1
R69	1952-356	Chip Resistor, 1% 3.74K OHM, Size 0805	EA	1
R70, 73	0751-084	Chip Resistor, 5% 3K OHM, Size 0805	EA	2
R74, 86	0751-145	Chip Resistor, 5% 1M OHM, Size 0805	EA	2
R84	0751-086	Chip Resistor, 5% 3.6K OHM, Size 0805	EA	1
R85, 92	0751-090	Chip Resistor, 5% 5.1K OHM, Size 0805	EA	2
R88	1952-515	Chip Resistor, 1%, 140K OHM, Size 0805	EA	1
R90	1952-561	Chip Resistor, 1%, 422K OHM, Size 0805	EA	1
SW2	0289-017	Dipswitch, 8-Position (E-Switch KAS Series, Right Angle)	EA	1
U1	2507-000	IC, Reset Monitor	EA	1
U2	0563-000	IC, Micropower Voltage Regulator (SON8-150)	EA	1
U3	3449-000	IC, Programmed Micro-Controller (QFP Package)	EA	1

U4, 5	2226-000	IC, Complimentary FET-Dual Array, SON8-150	EA	2
U6,19, 26	2239-001	IC, LinCMOS Quad Op-Amp, SO	EA	3
U7	0430-000	IC, Triple Analog Multiplexer	EA	1
U8	0427-102	IC, JFET Op-Amp Pair	EA	1
U9	2946-001	IC, Dual Analog Switch	EA	1
U10	3417-001	IC, Comparator, Low Power (TI P/N TLV3401 DBV Package)	EA	1
U12	3016-013	IC, Voltage Regulator, MIC29152	EA	1
U13	2092-000	IC, Reset Monitor	EA	1
U14	3070-000	IC, Voltage Regulator, Switching, MAX1649E, Case SO8	EA	1
U15	3015-000	IC, Gas Guage, BQ2014	EA	1
U16	3014-002	IC, Fast Charge, BQ2004H	EA	1
U17	3360-000	IC, Programmed Micro-Controller (QFP Package), GP32	EA	1
U18	3388-300	D-A Converter, AD7302 (TSSOP Package)	EA	1
U20	3072-000	IC, Attenuator, 2-Channel, LM1972M	EA	1
U21	0514-100	IC, Amplifier, Audio, MC34119, Case SO-8	EA	1
U22	3281-001	IC, Low Power Linear Regulator, SOT 23-5	EA	1
U23	2694-000	IC, LT1521 Voltage Regulator	EA	1
U24	0288-001	IC, Octal Latch, 74HC373DW Case SOIC (20 Pin)	EA	1
U25	2222-002	IC, RS-232 Transceiver	EA	1
U28	3016-029	IC, Voltage Regulator, MIC29302	EA	1
U29	3418-011	IC, Reset Monitor (MAX8212, SO8)	EA	1
Y1	1889-000 0568-001(alt) 2519-000(alt)	Crystal, 4.00MHZ (SMD) Crystal, uPROCESSOR low profile 4.000Mz (SM) Crystal, High Frequency (SMD)	EA	1
Y2	3073-000 3073-001(alt)	Crystal, 32.768Khz	EA	1
REF	4037-000	Schematic, Interface Board II, 2120	REF	
PCB	3065-000	Interface Circuit Board	EA	1
1	1519-000	Screw, Socket Button Cap	EA	2
2	1520-000	Nut, Nylon Insert Stop	EA	2
3	0148-000♦	Conformal Coat	AR	
-	1950-XXX	30 AWG Solid Core Wire	-	AR
-	2459-000	2-Part Epoxy	-	AR
-	0165-000	ADHESIVE, CYANOACRYLATE	-	AR
R94	0033-063	RESISTOR, 390 OHMS, ¼ W	EA	1
4	0146-007	TUBING, HEAT SHRINK	-	AR
R95	2145-121	RESISTOR, SM, 5%, 100K OHM, 1/16 W, 0603	EA	1

♦Conformal Coat after board passes Test #3331-000

Note: J10 and R93 intentionally not populated

Avant 2120 Pulse Oximeter and NIBP Monitor

Common Replacement Parts

August, 2002

Part	Part Number	USD Price
Rear Housing Assembly	3127-003	47.96
Battery Cover	3128-503	30.68
Label, Top	3313-001	2.48
Label, Caution	3314-000	3.00
Label, Patient Isolation	3843-000	1.16
Speaker Assembly	3336-000	15.52
NIBP Tubing Connector	3129-001	14.60
9-pin Male RS232 Connector Assembly	3378-000	11.40
9-pin SpO2 Connector	1725-000	17.16
Neoprene Foot	3607-001	.56

* Current prices are subject to future change.